

Bachelor of Science (B.Sc.) Semester—II (C.B.S.) Examination

GEOLOGY

Compulsory Paper—2

(Optical Mineralogy and Crystallography)

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat sketches wherever necessary.

1. Describe the following :—

(A) Interference colours.

(B) Abbe refractometer.

OR

Describe the following :—

(C) Double refraction and Nicol prism.

(D) Isotropism and anisotropism.

2. Give the optical properties of the following :—

(A) Calcite

(B) Garnet

(C) Quartz

(D) Augite.

OR

Give the optical properties of the following :—

(E) Microcline

(F) Muscovite

(G) Labradorite

(H) Olivine.

3. State the Law of “Constancy of interfacial angle”. Define interfacial angle. How do you determine it with the help of contact goniometer ?

OR

Give axial and symmetry elements of Galena class and describe forms present in it with Miller’s indices.

4. Give axial and symmetry elements of Gypsum type and describe forms present in it with Millerian indices.

OR

Give a brief account of Beryl type with reference to axial symmetry elements and forms present in it with Miller’s indices.

5. Write on the following in not more than two sentences each (Attempt any **TEN**) :—

- (A) Extinction angle
- (B) Ordinary light
- (C) Twinkling
- (D) Name any two minerals of Low relief
- (E) Name any two minerals of high interference colours
- (F) Name any two minerals showing perfect cleavage
- (G) Weiss parameters
- (H) Crystal face
- (I) Solid angle
- (J) Symmetry elements of Barytes
- (K) Basal pinacoid
- (L) Front pinacoid.